# Norfolk Naval Base (Sewells Point Naval Complex)

## Norfolk, Virginia

Superfund Program Site Fact Sheet

**Type of Facility:** Naval Base Federal Facility

Funding: Department of Defense

**Lead Agency:** Navy

### **Site Description and History**

The Norfolk Naval Base (NNB) is on 4,631 acres northwest of the City of Norfolk, Virginia. The Naval Complex includes the Norfolk Naval Base and other naval facilities. NNB is bounded by Willoughby Bay to the north, the confluence of the Elizabeth and James Rivers (forming Hampton Road) to the west, and the City of Norfolk to the southeast. Land in the area surrounding NNB is used predominantly for industry. NNB provides shore facilities and logistics support for Navy vessels and aircraft. Reportedly, 260 tenants on the Base support Navy activities worldwide. Approximately 170 shore activities and fleet commands, including Marine Corps units and the North Atlantic Treaty Organization's (NATO) Supreme Allied Command, Atlantic are at NNB. It is the homeport for more naval vessels than any other Atlantic port. This base was originally founded in 1917 by Presidential Proclamation.

The installation was listed on the National Priorities List (NPL) April 1, 1997. Waste generated at NNB includes halogenated and non-halogenated solvents; corrosives, battery electrolytes; paint waste; wastes from electroplating operations; contaminated petroleum, oils and lubricants; and off-specification, excess, or out-of-date commercial chemical products. In addition, the facility manages used oils, construction debris, PCBs, contaminated oil, general trash, and materials that contain asbestos.

The 22 Installation Restoration Program (IRP) sites have been identified. These sites include landfills, a drum storage yard, PCB transformer storage and work areas, slag piles, pesticide shop disposal areas, aircraft maintenance, and a salvage yard. Eighteen potential sources of contamination have been identified at NNB. Twelve potential sources were not evaluated because sampling data are lacking. The six sources evaluated include the Camp Allen Landfill, the slag pile, the Q area drum storage yard, the transformer storage area, the pesticide disposal site, and the CD landfill. The site may include other sources and suspect areas. Twenty-five Solid Waste Management Units (Swims) are being investigated at NNB.

Groundwater samples revealed volatile organic compounds (VOCs), metals, PCBs, and pesticides at elevated concentrations. Soil samples uncovered metals, VOCs and semi-VOCs, pesticides, and PCBs at elevated concentrations. Surface water runoff from six sources flows either to the Elizabeth River or to Willoughby Bay, converging with the Chesapeake Bay approximately 3-4 miles downstream from the sources. The Willoughby Bay drainage base includes wetlands and fisheries. Fisheries within 15 miles downstream of the site in Willoughby Bay and the Chesapeake Bay are subject to potential contamination from NNB.

**Status** (**March 1998**): A Remedial Investigation/Feasibility Study (RI/FS) has been completed and cleanup remedies have been selected for the Camp Allen Landfill, CD Landfill, Q Area Drum Storage Yard, and the LP-20 areas. Construction of a groundwater treatment system has been completed for the Camp Allen Landfill. Site investigation work has started at eight other disposal areas.

Following is a detailed description of the sites undergoing environmental restoration.

- **Site 1 Camp Allen Landfill (CAL) -** Land filling operations were conducted from the early 1940s to 1975 at CAL. CAL includes areas A and B. Material disposed at this 45-acre landfill included pesticides, metal plating and parts cleaning sludge, and miscellaneous debris. A removal action (cleanup) was completed in December 1994 for Area B. The final RI report was completed in July 1994. The final FS and baseline Risk Assessment were completed in November 1994. The Decision Document was completed in 1995. A groundwater treatment plant began operations at the end of 1996. Remedial activities have been completed, including installation of extraction wells and execution of Dual-Phase Vapor Extraction System (DPVE).
- **Site 2 NM Slag Pile** The NM Slag Pile covers approximately two acres of land. The site was used for disposal of slag generated from aluminum smelting operations in the 1950s and 1960s, resulting in lead contamination in area soils. An additional investigation was planned in 1996. RI/FS is complete. A Proposed Remedial Action Plan (PRAP) and Records of Decision (ROD) were completed in 1998.
- **Site 3 Q-Area Drum Storage Yard (QADSY):** The QADSY is an area where new drums of material were stored before being issued to the fleet. This five-acre fenced earthen yard was used from the 1950s until late 1980s. Most of the drums contained new petroleum products, paint thinners, and pesticides. Leaking drums have caused stained areas within the yard. RI/FS and risk assessment was completed in 1995. Remedial activities began in 1996, with installation of a Dual-Phase Vapor Extraction System. The system is currently in operation.
- **Site 4 P-71 Transformer Storage Area -** These 0.5 acres was used to store new and out-of-service electrical transformers from the 1940s until 1978. Reportedly, transformer oil was drained from out-of-service transformers onto the ground surface. A RI performed in 1992 revealed PCB contamination in the top three feet of soil and in the shallow groundwater. The predominant contaminant was Aroclor 1260. An FS, PRAP,

and remedial design were done in 1991 and remedial action completed in 1992. The site is currently used for utility vehicle parking.

**Site 5 - Pesticide Disposal Site -** This site, in the southeast of Building V-95, was used for disposal of waste pesticide materials from the 1960s until 1973. Approximately 100 gallons per week of chlordane, Malathion, DDT, DDD, and dieldren were disposed using the French drain system. A 1988 study revealed contamination in the soil but not in the shallow groundwater in the vicinity. An RI/FS is in progress. Currently, this area is fenced off and used for storage of other materials. A removal action was completed in March of 1998 to remove contaminated soils. Following the removal, No Further Action is warranted.

Site 6 - CD Landfill - This landfill occupies approximately 30 acres and is east of Hampton Boulevard and south of the Naval Exchange. This area was primarily used for the disposal of inert, nonhazardous waste from 1974 until 1987. Disposed materials included construction debris, salvage fuel boiler and power plant ash, dust containing cadmium and sandblasting grit containing lead, and miscellaneous inert waste. The Environmental Protection Agency (EPA) toxicity testing, performed in 1981, found the dust hazardous for cadmium. After 1981, the cadmium-contaminated material was disposed offsite at a permitted hazardous waste disposal facility. Seabee Road, separating the eastern and western portions of the landfill, was constructed over the landfill in 1993. The draft RI, completed in December 1994, showed disposal/landfill activities have affected soils, shallow groundwater, surface water and sediment. In July 1999, the landfill was capped as part of the ROD signed in Sept 1998. Arsenic, beryllium lead, and manganese were prevalent in soils. Semi-volatile and pesticides were also found in one soil boring. However, cadmium contamination was not found during the RI. Monitoring of the deeper Yorktown Aquifer did not reveal elevated levels of organic or inorganic contaminants. Surface water and sediments in drainage ditches, next to the site, had slightly elevated levels of semi-volatiles, pesticides, and metals. Elevated levels of PCBs were also detected in shallow sediments.

An FS was completed in 1995 for this site. A proposed remedial action plan and a Record of Decision (ROD) were completed in February 1998 closing the landfill as a solid waste landfill.

**Site 7 - Inert Chemical Landfill -** This landfill is south of the CD Landfill. It was used for a one-time disposal of inert chemicals, primarily unused ion exchange resins. Eighty-four pallets of materials were buried in June 1979 with the approval of the Virginia Department of Health (VDH), Solid and Hazardous Waste Management Division. No further action is recommended for this site because of the inert, nonhazardous nature of the disposed materials. A closeout report was completed in December 1997.

**Site 8 - Asbestos Landfill -** This landfill, located east of the Inert Chemical Landfill, was used for a one-time disposal of asbestos materials generated during a ship retrofitting operation. Approximately 6,500 bags (double-bagged) of asbestos were buried in June 1979 with the approval of the VDH, Solid and Hazardous Waste Management Division.

No further action is recommended for this site because the disposed materials were nonhazardous and the VDH approved the landfill. A closeout report was completed in 1997.

- **Site 9 Q-Area Landfill -** This landfill is on the northwestern corner of the NNB created by dredging operations in the early 1950s. This area was used for the disposal of construction debris from 1974 until 1978. No further action was recommended for this site in the 1983 Initial Assessment Study (IAS) since the landfill was used for nonhazardous construction debris. However, further investigation was warranted based on new information. The site is currently under further investigation.
- **Site 10 Apollo Fuel Disposal Sites.** The two disposal sites are in the NM area. One site is a fenced place about 40 feet long and 20 feet wide on the north of the Taussig Cans area. From 1967 until 1969, three or four drums of fuel component from two or three Apollo spacecraft capsules were disposed by pouring the fuel component (monomethylhydrazine) onto the ground surface and allowing it to percolate. The site was abandoned because of its proximity to a drainage ditch. The fence was, then, moved to another site near Building NM-37. The disposal procedure practiced at this site was the same with approximately the same quantity of disposed material.

Inspection of both Apollo Fuel Disposal sites during the 1983 IAS showed the vegetation was not visibly stressed because of the past disposal operations, therefore, no further action was recommended. A closeout report was completed in December 1997.

**Site 11 - Instrument Repair Shop Drains -** Unknown quantities of radium waste from ship dials were poured down the sink drains in this shop in Building V-60, contaminating the drainpipes and sink traps. The shop was operated from the late 1940s until 1956. As an interim measure to address the contamination, the drain traps were plugged with concrete to prevent flushing of the radium into the storm sewer system and into Willoughby Bay.

In 1982, Chem Nuclear was awarded a contract to remove the low-level radiological contamination in the Building V-60 plumbing and the cleanup was completed. In 1991, remediation (decontamination, demolition, and disposal) of Site 19 (Buildings V-60/V-90) included this site as well. No further action is recommended.

- **Site 12 Alleged Mercury Disposal Site -** Approximately 150 ten-pound glass bottles of elemental mercury were reportedly dumped off the seawall near Building V-88 into Willoughby Bay in the late 1960s. In 1976, divers probed sediments for the glass container and samples were collected from Willoughby Bay at the alleged dumpsite for mercury analysis. No evidence of mercury or glass containers was found. No further action was recommended. A closeout report was completed in December 1997.
- **Site 13 Past Industrial Wastewater Outfalls -** Many industrial wastewater streams generated by NNB operations were discharged to the storm sewer system and, ultimately,

to Willoughby Bay. These discharges included metal plating solutions, rinse water (chromium, cadmium, zinc, and cyanide), cleaning solution, and paint stripping waste.

In the mid-1970s, the industrial waste streams were rerouted to the Industrial Wastewater Treatment Plant (IWTP) serving as a centralized pretreatment facility, with the effluent being discharged to the Hampton Roads Sanitation District (HRSD) sewage treatment plant. Approximately 100,000 gallons per day have been routed to the IWTP since it began operation in 1976. Discharges from the storm sewer system from the NNB (storm water runoff, steam condensate, and non-contact cooling water) are permitted under the National Pollutant Discharge Elimination System (NPDES). No further action was recommended.

**Site 16 - Chemical Fire, Building X-136 -** In July 1979, a chemical fire occurred in Building X-136 because of incompatible chemical storage, predominantly of calcium hypochlorite and acids. During the fire fighting operation, approximately two tons of calcium hypochlorite were flushed down the storm drain with water and discharged to the Elizabeth River. Inspection of the chemical fire site during the 1983 IAS showed the site had been adequately cleaned up and no further action was recommended. A closeout report was completed in December 1997.

**Site 17 - Chemical Fire, Building SDA-215 -** In August 1981, a chemical fire occurred in cell six of Building SDA-215 because of incompatible chemical storage (calcium hypochlorite and acids). After the fire, the site was cleaned by removing the hazardous chemicals and the contaminated soil next to this building. The materials were hauled off to a permitted hazardous waste disposal facility. Inspection of the site during the 1983 IAS showed the site had been decontaminated, therefore, no further action was recommended. A closeout report was completed in December 1997.

**Site 18 - Former NM Hazardous Waste Storage Area -** This site, used from 1975 until 1979 to store drums of hazardous wastes (oil, metal plating solutions and sludge, various chlorinated organic solvents, acids, and paint stripping solutions), was an open earthen yard located east of the Taussig Cans in the NM area. Considerable leakage and spillage occurred in July 1979. Consequently, a pit was excavated and an existing drainage ditch was widened and lengthened to convey waste oil and contaminated storm water runoff to the unlined pit. The waste was periodically pumped from the pit into a tank truck and transported to the IWTP for treatment.

Sampling and analysis of the soil in the spill area showed it was contaminated with metals, primarily chromium and cadmium, but a sample of the soil, when tested for EP toxicity, was non-hazardous. The contaminated soil was excavated and placed in piles near the spill area.

A landfill permit was issued by the VDH in October 1980 for the one-time disposal of the contaminated soil by grading and seeding it to establish a vegetative cover. This permit required a continuing monitoring program to determine if contaminant migration was occurring. Monthly monitoring of the standing water from the pit from February 1980

through April 1982 showed the Virginia Groundwater Standards for cadmium, chromium, cyanide, and phenols were slightly exceeded on a sporadic basis.

In the IAS, no further action was recommended for this site. Monitoring of the former NM hazardous waste storage area is no longer conducted as part of the NPDES monitoring programs because the former discharge point has been removed by regrading activities. A closeout report was completed in December 1997.

**Site 19 - Buildings V-60/V-90 -** These buildings, now demolished, were aircraft hangars for maintenance and repair of F-14 and A-6 aircraft. In 1986, a fire occurred in electrical switch gear in Building V-60. The electrical equipment at the source of the fire contained PCBs (Aroclor 1260). PCB-contaminated soot was visible in Buildings V-60 and V-90. An RI/FS was completed in 1989 and the following chemicals were found in these buildings: beryllium (aircraft brake materials), radium 226 (aircraft instrument paint), PCBs, polychlorinated dibenzofuran (PCDF), polychlorinated dibenzodioxin (PCDD), asbestos, acids, solvents/degreasers, and pesticides.

The extent of the contamination led to the decision to decontaminate the salvageable materials in the buildings and to demolish them in 1989. Sampling, completed in late 1991, verified the cleanup was successfully completed.

**Site 20 - LP-20 Building -** This is one of the many large buildings located northwest of the Naval Air Station's (NAS) main runway. The building currently houses an aircraft engine overhaul and maintenance shop, but it was previously used for a plating operation. A large fuel storage area is just south of the building.

Cleaning solvents have been released to the soil and groundwater, possibly through the storage areas and floor drains of Building LP-20. Fieldwork for the RI/FS was completed in February 1995, the RI/FS was completed in 1996, and remedial action began in 1997. A groundwater/soil vapor extraction system has been operational since the spring of 1998. The LP-20 Building is still under investigation.

- **Site 21 Building W-316 -** This building, located east of Pier H at the Naval Station, is a PCB small storage facility still used by the Navy Public Works Center (PWC) to store various electrical components, including transformers. The Preliminary Assessment Site Investigation (PA/SI) was completed in 1996 and a removal action was completed in February 1998.
- **Site 22 Camp Allen Salvage Yard (CASY) -** This site, located between Area A and Area B of Camp Allen Landfill Site, was operating from 1940s until 1995. CASY activities included storage and management of waste oils, chemicals, acids, paint thinners, pesticides, transformers, scrap industrial/commercial equipment, metal smelting, and miscellaneous incineration. A PCB spill occurred in 1989 and a preliminary cleanup was conducted.

A PA/SI was completed in May 1994. The investigation results showed that surface and subsurface soils were contaminated with PCBs, pesticides, and metals. The groundwater contamination in the area was addressed by the Camp Allen Landfill implemented cleanup action. A RI was completed in 1998 and a feasibility study is currently underway with a PRAP and ROD expected to be signed by 2003.

#### Solid Waste Management Units (SWMUs)

Twenty-five SWMUs are being investigated at NNB. These SWMUs are described below and they are currently under investigation to decide if further action is warranted.

**SWMU-1 - SP-2B Hazardous Waste Accumulation Area -** This site is one of many accumulation areas at the NNB used for temporary storage of hazardous waste containers. The waste is picked up periodically for off-site treatment, recycling, and/or disposal.

This area is outdoors, northeast of Building SP-2 next to a Coast Guard trailer on A Street. This unit is approximately 6 feet and has a concrete base, bermed, with a wooden roof and caged to prevent unauthorized access. Although this unit is currently used to store equipment, in the past, it handled industrial waste moved biweekly to a Resource Conservation and Recovery Act (RCRA)-regulated storage area.

In the RCRA Facility Assessment (RFA), a moderate potential for release to the soil/groundwater was determined due to the deterioration of the concrete base. Soil sampling was recommended and completed by Baker. Elevated concentrations of acetone and several semi-volatiles were detected. Sampling and analysis was accomplished in 1996 and determined the need for further investigations. A removal action is planned.

**SWMU-2 - Building Z-309 Former Ash Hopper Storage Area -** This unit, located next to Building Z-309 in the western portion of NNB, received ash from boiler operations. Daily ash collected was sent to an off-site waste landfill. This unit operated from 1967 until 1986 when building Z-309 salvage fuel boilers ceased burning municipal waste.

In the RFA, a moderate potential for release to the soil/groundwater was determined due to the presence of soil surrounding the unit's concrete pad. Analysis of soil samples was recommended and initiated by Baker in 1995. Soil analysis was completed and no further action was recommended.

**SWMU-3 - Building Z-309 Oil/Lubricant Storage Area -** This area, located next to Building Z-309 in the northwest portion of the NNB, was used for storage of oils and lubricants used in the Z-309 area. Drums were stored horizontally on racks 18 inches above a soil and a gravel base.

In the RFA, a high potential for release to the soil and groundwater was determined due to the presence of heavily stained soil beneath the drum racks. Analysis of soil sampling was recommended and performed by Baker in 1994-1995.

**SWMU-4 - PWC Sandblast Area -** This area is in the northwestern corner of the NNB next to Building Q-72 and next to the Elizabeth River. It is used to perform sandblasting of barges. The Area of Concern (AOC) is approximately one-half acre and is underlain by soil. Storm water runoff and spray from operations at this site, discharging into the Elizabeth River, is NPDES-permitted.

Sandblasting material migrates to the Elizabeth River during periods of precipitation. Sampling and analysis was done by Baker in 1995 using a geoprobe. Additional sampling was conducted in 1996. The site is currently still in use.

**SWMU-5 - LF-61 Waste Holding Tank -** This site consists of an aboveground storage tank (AST) with a holding capacity of approximately 5,000 gallons located approximately 25 feet south of Willoughby Bay. The AST serves as a holding tank for waste generated at Buildings LF-53, LF-38, and LF-34. A concrete wall surrounds the AST, approximately 3 feet high, with a concrete base that may be cracked.

In December 1989, the AST overflowed in Building LF-38 due to frozen pipes Approximately 100 to 500 gallons overflowed to surrounding solid and Willoughby Bay. Contaminants consisted of chromium, cadmium, nickel, and zinc. Baker performed sampling and analysis of the groundwater and soil in 1994-1995.

**SWMU-6 - Building V-28 Waste Pit -** This site consists of a subsurface concrete pit used to hold wastes from a metal plating shop within Building V-28. The ground surface of the entire area, covered with approximately 6 inches of concrete, is between buildings V-28 and V-4. Gates restrict access to the area. Willoughby Bay is approximately 200 feet north of the site.

The concrete sump, used to collect metal plating wastes, was stopped in late 1987. Sampling and analysis of the groundwater and subsurface soil was done by Baker in 1994 and 1995. Currently the site is in the scoping phase for a RI workplan. The pit and surrounding soils have been removed.

**SWMU-7 - LF-18 Aircraft Ramp -** This aircraft ramp, located east of Building LF-18 in the northern portion of the Naval Aviation Depot (NADEP) area, currently serves as a parking lot for civilian workers. Willoughby Bay is immediately east of this site. A 1963 aerial photographs showed potential petroleum staining of the ground surface and suggested the staining resulted from seaplane activities. Sampling and analysis of the groundwater and subsurface soil was done by Baker in 1994 and 1995.

**SWMU-8 - Fire Training School -** This site, in the extreme southwest portion of the NNB near the Norfolk International Terminal, is used by U. S. Navy personnel to train in extinguishing various types of fires under a variety of conditions. The facility operates

three fire pits and two buildings used to practice fire training techniques. The ground is entirely covered with asphalt and concrete. Access to the site is restricted during non-working hours.

In 1940 to 1990 aerial photographs show petroleum staining of the surface within the site, likely from fuel oil used in fire fighting training activities. Site sampling and analysis were done by Baker in 1994-1995. Currently the site is being investigated further and is scheduled for more sampling.

**SWMU-9 - LP-200 MAC Terminal -** This area is east of Building LP-167 and south of the taxiway for runway 28. The area immediately east of Building LP-167 has a concrete surface and is used as a tune-up area for Jet engine aircraft (F-14s). The land, located east of the engine tune-up area, is grass-covered and is drained by a surface water drainage ditch that parallels the taxiway. From the vegetation present along the ditch, it appears the ditch is wet year around.

In 1949-1954 aerial photographs showed a solid waste and fill disposal area consisting of coarse-textured materials with possible discarded objects. Sampling and analysis of the surface soil was done by Baker in 1994-1995.

**SWMU-10 - LP-200 MAC Terminal East -** The site extends from the MAC Terminal parking area, northward, just south of the runway 28 taxiway. The site includes part of the Weapons Station near Building NM-25 and it is entirely grass or shrub-covered. Portions of the site are mowed periodically near the MAC Terminal and Building NM-25. A drainage ditch intercepts the southern portion of the site and, then, it parallels the western boundary. The drainage ditch is tidally influenced. In 1954 to 1990 aerial photographs show small disturbed and graded areas with possible activities observed at various locations. Sampling and analysis of the surface soil and groundwater was done by Baker in 1994-1995.

**SWMU-11 - Old Weapons Station Entrance -** The entrance is west of Patrol Road within the boundary of the Weapons Station area. The site, containing two separate areas, is a grass-covered field that slopes southward to a tidally influenced tributary of Mason Creek. Drainage ditches line the entrance and discharge to the tributary. Wooded areas outline the boundary of the fields to the north. A radio communication station is east of the site, on the opposite side of the Weapons Station security fence.

In 1949 and 1954 aerial photographs show mounds of multi-toned materials and stacked objects. Sampling and analysis of the surface soil and groundwater was done by Baker in 1994 and 1995.

**SWMU-12 - Disposal Area Near NM-37 -** Building NM-37 is a vehicle maintenance building within the Weapons Station Area. The facility services trucks, forklifts, and other military vehicles within the Weapons Station. The ground surface is covered with an asphalt surface and the surrounding area is well vegetated and heavily wooded. The facility operates two Hazardous Waste Accumulation Areas (HWAAs). One, located

directly north of the building, is a metal container used for mowers, oils, and hydraulic fluids. The second area, on the northwest side of the building, is a hazardous waste storage area and is used for the storage of solvents and paints.

A 1958 aerial photograph shows a possible disposal area marked by ground-surface scarring. Sampling and analysis of the surface soil was done by Baker in 1994 and 1995.

**SWMU-13 - Disposal Area Behind Slag Pile/PWC Operations -** This disposal area, in a wooded area north of Building NM-92, is used to store various storage units used for the transportation of equipment. Two manmade drainage ditches divide the site and water has been observed in both ditches.

In 1937 to 1949 aerial photographs show a possible disposal area based on the irregular area of a disturbed ground surface. Sampling and analysis of the surface soil and groundwater was done by Baker in 1994-1995.

**SWMU-14 - Q-50 Satellite Accumulation Area -** This area, in the northeast corner of NNB, is a concrete containment area approximately 15 feet by 25 feet. It is used to store waste generated from oil cleanup activities around the base such as absorbent booms, oil-contaminated soils, and trash picked up from oil spills. Previous site visits showed petroleum staining at several areas. Sampling and analysis of the surface soil was done by Baker in 1994 and 1995. The site is currently being investigated further under the Q Area Landfill.

**SWMU-15 - W-130 Hazardous Waste Accumulation Area (HWAA) -** Building W-130 is used as a forklift maintenance building. The former HWAA, on the northern side of the building, has a gravel surface and large paved parking areas near the site.

The HWAA, although no longer used as an HWAA, formerly managed waste oils and wash rack sludge generated during forklift maintenance. It generated one to two 55-gallon drums of each material per month. Earlier site visits revealed areas of stained surface soils. Sampling and analysis of the surface soil was done by Baker in 1994-1995.

**SWMU16 - NM-37 Accumulation Area -** This area, located northeast of Building NM-37 and within the Weapons Station area, is a vehicle maintenance building that services trucks, forklifts, and other military vehicles. The NM-37 Accumulation Area was designated to accumulate waste materials. The ground surface near Building NM-37 is covered with an asphalt surface and the surrounding area is well vegetated and heavily wooded.

Although there is no history of releases, site visits observed areas of stressed vegetation. Sampling and analysis of the surface soil were done by Baker in 1994 and 1995. The site is under investigation.

**SWMU-26 - North East of NM-31 -** This site is in the south central portion of the NNB. A 1938 aerial photograph showed many mounds of light-toned materials. Sampling and

analysis of the surface soil was done by Baker in 1994 and 1995. Further investigation revealed that no further action was necessary.

**SWMU-27 - Mason Creek Embankment -** This wooded site, located along the western bank of Mason Creek near the eastern end of Runway 28, is in an area of disturbed surface soils. Aerial photographs from 1987 show materials may have been disposed in this area. Sampling and analysis of the surface soil was done by Baker in 1994 and 1995. No further action is warranted.

**SWMU-28 - Probable Solid Waste Disposal South of CEP 201 -** This site is defined by a solid waste and disposal area with dark-toned mounds of material, debris, and probable earthen materials intermixed with debris. It is on an asphalt surface south of Building CEP 201. This area is a storage facility for large objects or equipment awaiting shipment. Tractor trailers are also kept in this area until they are needed for material transportation.

The debris and material are visible on a 1982 aerial photograph. Sampling and analysis of the subsurface soil was done by Baker in 1994 and 1995.

**SWMU-29 - Solid Waste Disposal Area/CD-3/CD-4 -** This site, located south of Admiral Taussig Boulevard, consists of a mound of material. 1958 and 1963 aerial photographs show this area was used for solid waste disposal. At the time of the photographs, the disposal activities were inactive and the mound of material was vegetated. Sampling and analysis of the subsurface soil was done by Baker in 1994 and 1995. No further action was warranted.

SWMU-30 - Sludge Fill Disposal Area/Marshy Area South of Runway/North of Camp Allen - This area, located south of the west end of Runway 28, is entirely grass covered. It appears that during period of heavy rain, surface water may accumulate in the disposal area. Bousch Creek enters a concrete culvert and passes beneath the west end of the runway area. A manmade drainage ditch bounds portions of this site.

In 1949, 1968, and 1991 aerial photographs show this area was used for the disposal of sludge and fill material. Sampling and analysis of the subsurface soil was done by Baker in 1994 and 1995. No further action is warranted.

**SWMU-32 - Solid Waste Disposal Area/CEP-160/161 Embankment -** This area, in the southwest corner of the intersection of Admiral Taussig Boulevard and Second Street, is a gravel parking lot in the pier area formerly used for waste and fill disposal. Surface waters drain to a drainage ditch on the southern side of this site. These waters discharge directly to the Elizabeth River. 1968 and 1982 aerial photographs verify this area was used for waste and fill disposal. Sampling and analysis of the subsurface soil was done by Baker in 1994 and 1995.

**SWMU-33 - Debris Piled at Seawall/Corner of Sustain Pier -** This former debris pile is at the floating dry dock USS Sustain, next to the Elizabeth River on the western side,

and bordering the dry-dock area, on the northern side. This pile is partially covered with asphalt. A gravel parking lot is south of the dry-dock area. A Satellite Accumulation Area (SAA) is also located within the area. A 1963 aerial photograph shows debris was mounded and buried in this area. Sampling and analysis of the subsurface soil was done by Baker in 1994 and 1995.

**SWMU34 - Solid Waste Disposal CEP 200 -** This is a grass-covered, mounded disposal area between Building CEP 156 to the north and Building CEP 200 to the south. In 1996 aerial photography shows that debris was stored in this area. Sampling and analysis of the subsurface soil was done by Baker in 1994 and 1995.

**SWMU-35 - Solid Waste Disposal CEP 196 / Resolute Embankment -** This site is in an area east of the floating dry-dock USS Resolute. Part of the site forms a peninsula that extends into the Elizabeth River. The peninsula is grass covered while the northern portion is in an asphalt parking lot. A 1982 aerial photograph shows this area was used for waste and fill disposal. Sampling and analysis of the subsurface soil was done by Baker in 1994-1995.

### **Community Relations**

A federal facility may provide their own community relations program; however, it must be consistent with CERCLA, the National Contingency Plan, and the Environmental Protection Agency (EPA) policies. VDEQ staff members review and comment on documents such as Community Relations Plans, fact sheets, slide shows, etc. They also participate in Restoration Advisory Board and public meetings, as requested, visit site locations, and provide additional community relations support, as needed.

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